09/786529
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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 10 May 2001 (10.05.01)	
International application No. PCT/US99/19490	**Applicant's or agent's file reference** 082771.P332
International filing date (day/month/year) 26 August 1999 (26.08.99)	**Priority date** (day/month/year) 26 August 1998 (26.08.98)

Applicant

LUCIANI, James, V.

1. The designated Office is hereby notified of its election made:

   [X] in the demand filed with the International Preliminary Examining Authority on:

   16 March 2000 (16.03.00)

   [ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

   [ ] was not

   made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

CORRECTED VERSION

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Maria Kirchner
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year)
07 June 2000 (07.06.00)

International application No.	Applicant's or agent's file reference
PCT/US99/19490	082771.P332

International filing date (day/month/year)	Priority date (day/month/year)
26 August 1999 (26.08.99)	26 August 1998 (26.08.98)

Applicant
LUCIANI, James, V.

1. The designated Office is hereby notified of its election made:

    [X] in the demand filed with the International Preliminary Examining Authority on:

    10 May 2000 (10.05.00)

    [ ] in a notice effecting later election filed with the International Bureau on:

2. The election [ ] was

    [X] was not

    made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer
	Kiwa Mpay
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT   IS

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 082771.P332	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US99/19490	International filing date *(day/month/year)* 26/08/1999	Priority date *(day/month/year)* 26/08/1998

International Patent Classification (IPC) or national classification and IPC
H04L29/06

Applicant

NORTEL NETWORKS LIMITED et al.

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1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

    ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

    These annexes consist of a total of sheets.

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3. This report contains indications relating to the following items:

    I   ☒   Basis of the report
    II   ☐   Priority
    III   ☐   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
    IV   ☐   Lack of unity of invention
    V   ☒   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
    VI   ☐   Certain documents cited
    VII   ☒   Certain defects in the international application
    VIII ☒   Certain observations on the international application

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Date of submission of the demand 16/03/2000	Date of completion of this report 21.11.2000
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Körbler, G Telephone No. +49 89 2399 8250

Form PCT/IPEA/409 (cover sheet) (January 1994)

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).)*:
   Description, pages:

   1-41   as originally filed

   Claims, No.:

   1-90   as originally filed

   Drawings, sheets:

   1/7-7/7   as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description,   pages:

   ☐ the claims,   Nos.:

☐ the drawings,   sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1, 31, 61
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-90
Industrial applicability (IA)	Yes:	Claims	1-90
	No:	Claims	

2. Citations and explanations
   see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Cited document:

D1: CHAN PARK; HEE SOOK CHOI; JIN OH KIM; JONG HYUP LEE: 'Next Hop
Resolution using classical IP over ATM' LOCAL COMMPUTER
NETWORKS, [Online] - 1997 pages 106-110, XP002129693 IEEE
Proceedings, 22nd Annual Conference on, 1997

Re Item V
**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step
or industrial applicability; citations and explanations supporting such statement**

1.   The present broad formulation of independent claim 1 (see Item VIII) is such that
its corresponding subject-matter is not novel having regard to the disclosure of
document D1.

1a.   In the TCP/IP world the method of Classical IP over ATM is already known.
Classical IP over ATM is the method of moving LAN and Intranet traffic over ATM
that has been developed by the IETF (Internet Engineering Task Force). The
IETF's specification is defined to provide native IP support over ATM and is
documented in the following RFCs (Request for Comments):
RFC 1483, RFC 1577, RFC 1755, RFC 2022.

In the classical IP over ATM model, the ATM fabric interconnecting group of hosts
is considered a network, called Nonbroadcast Multiple Access (NBMA). A NBMA
network is made up of a switched service like ATM or Frame Relay with a large
number of end stations that cannot directly broadcast messages to each other
(see D1 page 107, bottom until page 109 top: "These requirements, however, are
clearly ...)".

This is illustrated by document D1, which discloses (the parentheses applying to
this document):

A method to obtain information transmitted between a source station and a

destination station in a non broadcast multiple access network (Figure 3), comprising:

> establishing a connection between the source station (Client A) and a server (ATM ARP server) for the destination station (client B), the server having a server cache containing the information (page 107, left-handed column, line 24-28: "Once the ATM ARP request..." and page 109, left-handed column, line 5-9: "Therefore, an ATM ARP server...");
>
> transmitting a request (Figure 3, ATM_ARP_Request) packet having parameters relating to the information to the server; and
>
> receiving a reply packet (Figure 3, ATM_ARP_Reply) containing the information from the server, the reply packet matching the parameters of the request (page 107, left-handed column, line 28-31: "Subsequently, any node within the LIS wishing to resolve a destination IP address would send an ATM_ARP_Request to the server, which would send an ATM_ARP_Reply if an address mapping is found").

This is the wording of claim 1 of the present application, the subject-matter of which is consequently not novel. The claim therefore does not meet the requirements of Art. 33(2) PCT.

1b. It should be noted that even if novelty of claim 1 could be argued based on minor differences between the features of cited claims and those disclosed in D1, the subject-matter of claim 1 would still not involve an inventive step, Article 33(3) PCT, having regard to the disclosure of D1 especially as this document discloses the same object and the same type of solution as claimed in this claim.

2. Independent claim 31, although phrased as a computer program claim, is nonetheless a simple repetition of the subject-matter of method claim 1 and hence does not meet the requirements of the PCT for the same reasons.

3. Independent claim 61, although phrased as a system claim, is nonetheless a simple repetition of the subject-matter of method claim 1 and hence does not meet the requirements of the PCT for the same reasons.

4. The dependent claims 2-30, 32-60, 62-90 do not seem to contain any subject-

matter which, in combination with the subject-matter of the claim on which they are dependent, would lead to a claim involving an inventive activity (Article 33(3) PCT).
They are either derivable from the above cited document or concern simple embodiments without inventive merit in themselves.

Re Item VII
Certain defects in the international application

1. The independent claims are not in the two-part form required by Rule 6.3(b) PCT, with a preamble based on D1.

2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

3. Contrary to the requirements of Rule 5.1 (a)(ii) PCT, the relevant background art disclosed in document D1 is not mentioned in the description, nor is this document identified therein.

4. The reference to "the spirit of the invention" should have been deleted (see page 41, last line) (Article 6 PCT and PCT-Guidelines, Chapter III-4.3a)

Re Item VIII
Certain observations on the international application

1. The independent claims 1 and 31 do not meet the requirements of Article 6 PCT, since their subject-matter is not clear for the following reason.

    Claims 1 and 31 mention "...obtain **information**... and ...the server having a server cache containing the **information**...".
    It is not clear was is meant by information, what information ?

Presumably the Applicant means addressing information on destination stations
(see claim 61).

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 082771.P332	**FOR FURTHER ACTION**	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as. where applicable. item 5 below.
International application No. PCT/US 99/ 19490	International filing date *(day/month/year)* 26/08/1999	(Earliest) Priority Date *(day/month/year)* 26/08/1998

Applicant NORTEL NETWORKS CORPORATION et al.

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of _____2_____ sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

    a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed. unless otherwise indicated under this item.

    [ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

    b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application. the international search was carried out on the basis of the sequence listing :

    [ ] contained in the international application in written form.

    [ ] filed together with the international application in computer readable form.

    [ ] furnished subsequently to this Authority in written form.

    [ ] furnished subsequently to this Authority in computer readble form.

    [ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

    [ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

    [ ] the text is approved as submitted by the applicant.

    [X] the text has been established by this Authority to read as follows:

    NICHT-BROADCAST,MEHRFACHZUGRIFFS-INVERSE NEXT-HOP-RESOLUTION PROTOKOLL(INNHRP)

5. With regard to the **abstract,**

    [X] the text is approved as submitted by the applicant.

    [ ] the text has been established. according to Rule 38.2(b). by this Authority as it appears in Box III. The applicant may. within one month from the date of mailing of this international search report. submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. _____3_____

    [X] as suggested by the applicant.   [ ] None of the figures.

    [ ] because the applicant failed to suggest a figure.

    [ ] because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7   H04L29/06   H04L29/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7   H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHAN PARK; HEE SOOK CHOI; JIN OH KIM; JONG HYUP LEE: "Next Hop Resolution using classical IP over ATM" LOCAL COMMPUTER NETWORKS, 'Online! – 1997 pages 106-110, XP002129693 IEEE Proceedings, 22nd Annual Conference on, 1997 Retrieved from the Internet: <URL:iel.ihs.com> 'retrieved on 2000-02-03! abstract page 107, right-hand column, line 14 – line 40 figure 3 page 109, left-hand column, line 1 – line 16 -----	1-90

☐ Further documents are listed in the continuation of box C.   ☐ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
3 February 2000	16/02/2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Adkhis, F

Form PCT/ISA/210 (second sheet) (July 1992)

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

SCHAAL, William, W.
Blakely, Sokoloff, Taylor & Zafman
7th floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 29 November 2000 (29.11.00)	
Applicant's or agent's file reference 082771.P332	**IMPORTANT NOTIFICATION**
International application No. PCT/US99/19490	**International filing date** (day/month/year) 26 August 1999 (26.08.99)

1. The following indications appeared on record concerning:

[X] the applicant   [ ] the inventor   [ ] the agent   [ ] the common representative

Name and Address	State of Nationality	State of Residence
NORTEL NETWORKS CORPORATION World Trade Center of Montreal 8th floor 380 St. Antoine Street West Montreal, Quebec H2Y 3Y4 Canada	CA	CA
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

[ ] the person   [X] the name   [ ] the address   [ ] the nationality   [ ] the residence

Name and Address	State of Nationality	State of Residence
NORTEL NETWORKS LIMITED World Trade Center of Montreal 8th floor 380 St. Antoine Street West Montreal, Quebec H2Y 3Y4 Canada	CA	CA
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

[X] the receiving Office   [ ] the designated Offices concerned

[ ] the International Searching Authority   [X] the elected Offices concerned

[X] the International Preliminary Examining Authority   [ ] other:

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland** Facsimile No.: (41-22) 740.14.35	Authorized officer Jocelyne Rey-Millet Telephone No.: (41-22) 338.83.38

Form PCT/IB/306 (March 1994)   003690463

1-1

PATENT COOPERATION TREATY

RECD 26 APR 2001

PCT

WIPO   PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 082771.P332	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US99/19490	International filing date *(day/month/year)* 26/08/1999	Priority date *(day/month/year)* 26/08/1998
International Patent Classification (IPC) or national classification and IPC H04L29/06	CORRECTED	
Applicant NORTEL NETWORKS LIMITED et al.	VERSION	

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

   ⊠ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 11 sheets.

3. This report contains indications relating to the following items:

   I   ⊠ Basis of the report
   II   ☐ Priority
   III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   IV ☐ Lack of unity of invention
   V   ⊠ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   VI ☐ Certain documents cited
   VII ⊠ Certain defects in the international application
   VIII ⊠ Certain observations on the international application

Date of submission of the demand 16/03/2000	Date of completion of this report 20.04.2001
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Körbler, G Telephone No. +49 89 2399 8250

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:
Description, pages:

1-41   as originally filed

Claims, No.:

1-52   as received on   17/04/2001   with letter of   15/04/2000

Drawings, sheets:

1/7-7/7   as originally filed

2. With regard to the **language,** all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description,   pages:

   ☐ the claims,   Nos.:

☐ the drawings,   sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1, 28
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-52
Industrial applicability (IA)	Yes:	Claims	1-52
	No:	Claims	

2. Citations and explanations
   see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Cited document:

    D1: CHAN PARK; HEE SOOK CHOI; JIN OH KIM; JONG HYUP LEE: 'Next Hop
           Resolution using classical IP over ATM' LOCAL COMMPUTER
           NETWORKS, [Online] - 1997 pages 106-110, XP002129693 IEEE
           Proceedings, 22nd Annual Conference on, 1997

Re Item V
**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step
or industrial applicability; citations and explanations supporting such statement**

1.   The present broad formulation of independent claim 1 (see Item VIII) is such that
      its corresponding subject-matter is not novel having regard to the disclosure of
      document D1.

1a. In the TCP/IP world the method of Classical IP over ATM is already known.
      Classical IP over ATM is the method of moving LAN and Intranet traffic over ATM
      that has been developed by the IETF (Internet Engineering Task Force). The
      IETF's specification is defined to provide native IP support over ATM and is
      documented in the following RFCs (Request for Comments):
      RFC 1483, RFC 1577, RFC 1755, RFC 2022.

      In the classical IP over ATM model, the ATM fabric interconnecting group of hosts
      is considered a network, called Nonbroadcast Multiple Access (NBMA). A NBMA
      network is made up of a switched service like ATM or Frame Relay with a large
      number of end stations that cannot directly broadcast messages to each other
      (see D1 page 107, bottom until page 109 top: "These requirements, however, are
      clearly ...)".

      This is illustrated by document D1, which discloses (the parentheses applying to
      this document):

      A method to obtain information transmitted between a source station and a

destination station in a non broadcast multiple access network (Figure 3), comprising:

establishing a connection between the source station (Client A) and a server (ATM ARP server) for the destination station (client B), the server having a server cache containing the information (page 107, left-handed column, line 24-28: "Once the ATM ARP request..." and page 109, left-handed column, line 5-9: "Therefore, an ATM ARP server...");

transmitting a request (Figure 3, ATM_ARP_Request) packet having parameters relating to the information to the server; and

receiving a reply packet (Figure 3, ATM_ARP_Reply) containing the information from the server, the reply packet matching the parameters of the request (page 107, left-handed column, line 28-31: "Subsequently, any node within the LIS wishing to resolve a destination IP address would send an ATM_ARP_Request to the server, which would send an ATM_ARP_Reply if an address mapping is found").

This is the wording of claim 1 of the present application, the subject-matter of which is consequently not novel. The claim therefore does not meet the requirements of Art. 33(2) PCT.

1b.   It should be noted that even if novelty of claim 1 could be argued based on minor differences between the features of cited claim and those disclosed in D1, the subject-matter of claim 1 would still not involve an inventive step, Article 33(3) PCT, having regard to the disclosure of D1 especially as this document discloses the same object and the same type of solution as claimed in this claim.

2.   Independent claim 28, although phrased as a system claim, is nonetheless a simple repetition of the subject-matter of method claim 1 and hence does not meet the requirements of the PCT for the same reasons.

3.   The dependent claims 2-27, 29-52 do not seem to contain any subject-matter which, in combination with the subject-matter of the claim on which they are dependent, would lead to a claim involving an inventive activity (Article 33(3) PCT).

They are either derivable from the above cited document or concern simple

embodiments without inventive merit in themselves.

Re Item VII
Certain defects in the international application

1.   The independent claims are not in the two-part form required by Rule 6.3(b) PCT, with a preamble based on D1.

2.   The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

3.   Contrary to the requirements of Rule 5.1 (a)(ii) PCT, the relevant background art disclosed in document D1 is not mentioned in the description, nor is this document identified therein.

4.   The reference to "the spirit of the invention" should have been deleted (see page 41, last line) (Article 6 PCT and PCT-Guidelines, Chapter III-4.3a)

Re Item VIII
Certain observations on the international application

1.   The independent claim 1 does not meet the requirements of Article 6 PCT, since its subject-matter is not clear for the following reason.

      Claims 1 mentions "...obtain **information**... and ...the server having a server cache containing the **information**...".
      It is not clear was is meant by information, what information ?
      Presumably the Applicant means addressing information on destination stations.

AMENDED CLAIMS
[received by the International Bureau on 15 April 2000 (15.04.00);
original claims 1-90 replaced by new claims 1-52 (11 pages)]

1.   A method to obtain information transmitted between a
source station and a destination station in a non broadcast multiple access
network, comprising:

establishing a connection between the source station and a server
for the destination station, the server having a server cache containing the
information;

transmitting a request packet having parameters relating to the
information to the server; and

receiving a reply packet containing the information from the server,
the reply packet matching the parameters of the request packet.

2.   The method of Claim 1 wherein the information comprises
an internetwork layer address of the destination station.

3.   The method of Claim 1 wherein the information comprises
an instance of a resource information.

4.   The method of Claim 3 wherein the resource information
comprises a resource availability and an upper layer address information.

5.   The method of Claim 2 further comprising:
caching the address in a source cache;
inserting the address in a data packet; and

forwarding the data packet to the destination station.

6.   The method of Claim 2 wherein the request packet and the reply packet are instances of a protocol packet.

7.   The method of Claim 6 wherein the protocol packet comprises a fixed part and a mandatory part.

8.   The method of Claim 6 wherein the protocol packet further comprises an extensions part.

9.   The method of Claim 8 wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field specifying if the extension part exists and a location of the extension part if the extension part exists.

10.   The method of Claim 9 wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried, a protocol field specifying a protocol being used, a packet length field specifying a length of the protocol packet, a checksum field specifying a checksum value, a version field specifying a version of the protocol, a type and length of source address field specifying a type and length of a source NBMA address, and a type and length of source subaddress field specifying a type and length of a source NBMA subaddress.

11.   The method of Claim 9 wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type.

12.   The method of Claim 11 wherein the request packet is one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively.

13.   The method of Claim 11 wherein the reply packet is one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

14.   The method of Claim 12 wherein the mandatory part comprises a common header.

15.   The method of Claim 14 wherein the mandatory part further comprises at least a client information entry (CIE).

16.   The method of Claim 14 wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

17.   The method of Claim 16 wherein the common header further comprises at least one of a source NBMA address field specifying the source NBMA address, a source NBMA subaddress field specifying the

source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

18.   The method of Claim 15 wherein the CIE comprises at least one of a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

19.   The method of Claim 18 wherein the CIE further comprises at least one of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client subaddress time and length field specifying a time and length of a client subaddress interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA subaddress field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

20.   The method of Claim 16 wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

21.   The method of Claim 16 wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

22.   The method of Claim 16 wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

23.   The method of Claim 8 wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

24.   The method of Claim 23 wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

25.   The method of Claim 24 wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being

used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

26.   The method of Claim 24 wherein the extension part is terminated by an end-of-extension TLV triplet.

27.   The method of Claim 24 wherein the extension TLV triplet contains vendor private information including a vendor identification.

28.   A system comprising:

a server operating in a non broadcast multiple access network (NBMA), the server having a cache containing information on a destination station;

a source station coupled to the server via a connection to obtain the information, the source station transmitting a request packet to the server, the request packet having parameters relating to the information; and

wherein the server transmits a reply packet containing the information to the source station, the reply packet matching the parameters of the request packet.

29.   The system of Claim 28 wherein the information comprises an internetwork layer address of the destination station.

30.   The system of Claim 28 wherein the information comprises an instance of a resource information.

31.   The system of Claim 30 wherein the resource information comprises a resource availability and an upper layer address information.

32.   The system of Claim 29 wherein the source station comprises:

a source cache to cache the address, the address being inserted in a data packet, the data packet being forwarded to the destination station.

33.   The system of Claim 29 wherein the request packet and the reply packet are instances of a protocol packet.

34.   The system of Claim 33 wherein the protocol packet comprises a fixed part and a mandatory part.

35.   The system of Claim 33 wherein the protocol packet further comprises an extensions part.

36.   The system of Claim 35 wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field specifying if the extension part exists and a location of the extension part if the extension part exists.

37.   The system of Claim 36 wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried, a protocol field specifying a protocol being used, a packet length field specifying a length of the protocol packet, a checksum field specifying a checksum value, a version field specifying a

version of the protocol, a type and length of source address field specifying a type and length of a source NBMA address, and a type and length of source subaddress field specifying a type and length of a source NBMA subaddress.

38.   The system of Claim 36 wherein the mandatory part comprises a common header.

39.   The system of Claim 38 wherein the mandatory part further comprises at least a client information entry (CIE).

40.   The system of Claim 38 wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

41.   The system of Claim 40 wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type, the request packet being one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively, and the reply packet being one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

42.   The system of Claim 40 wherein the common header further comprises at least one of a source NBMA address field specifying the

source NBMA address, a source NBMA subaddress field specifying the source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

43.   The system of Claim 39 wherein the CIE comprises at least one of a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

44.   The system of Claim 43 wherein the CIE further comprises at least one of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client subaddress time and length field specifying a time and length of a client subaddress interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA subaddress field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

45.   The system of Claim 41 wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

46.   The system of Claim 41 wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

47.   The system of Claim 41 wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

48.   The system of Claim 35 wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

49.   The system of Claim 35 wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

50.   The system of Claim 49 wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being

used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

51.   The system of Claim 49 wherein the extension part is terminated by an end-of-extension TLV triplet.

52.   The system of Claim 49 wherein the extension TLV triplet contains vendor private information including a vendor identification.

AMENDED CLAIMS
[received by the International Bureau on 15 April 2000 (15.04.00);
original claims 1-90 replaced by new claims 1-52 (11 pages)]

1.   A method to obtain information transmitted between a
source station and a destination station in a non broadcast multiple access
network, comprising:

establishing a connection between the source station and a server
for the destination station, the server having a server cache containing the
information;

transmitting a request packet having parameters relating to the
information to the server; and

receiving a reply packet containing the information from the server,
the reply packet matching the parameters of the request packet.

2.   The method of Claim 1 wherein the information comprises
an internetwork layer address of the destination station.

3.   The method of Claim 1 wherein the information comprises
an instance of a resource information.

4.   The method of Claim 3 wherein the resource information
comprises a resource availability and an upper layer address information.

5.   The method of Claim 2 further comprising:
caching the address in a source cache;
inserting the address in a data packet; and

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forwarding the data packet to the destination station.

6.   The method of Claim 2 wherein the request packet and the reply packet are instances of a protocol packet.

7.   The method of Claim 6 wherein the protocol packet comprises a fixed part and a mandatory part.

8.   The method of Claim 6 wherein the protocol packet further comprises an extensions part.

9.   The method of Claim 8 wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field specifying if the extension part exists and a location of the extension part if the extension part exists.

10.   The method of Claim 9 wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried, a protocol field specifying a protocol being used, a packet length field specifying a length of the protocol packet, a checksum field specifying a checksum value, a version field specifying a version of the protocol, a type and length of source address field specifying a type and length of a source NBMA address, and a type and length of source subaddress field specifying a type and length of a source NBMA subaddress.

11.   The method of Claim 9 wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type.

12.   The method of Claim 11 wherein the request packet is one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively.

13.   The method of Claim 11 wherein the reply packet is one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

14.   The method of Claim 12 wherein the mandatory part comprises a common header.

15.   The method of Claim 14 wherein the mandatory part further comprises at least a client information entry (CIE).

16.   The method of Claim 14 wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

17.   The method of Claim 16 wherein the common header further comprises at least one of a source NBMA address field specifying the source NBMA address, a source NBMA subaddress field specifying the

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source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

18.   The method of Claim 15 wherein the CIE comprises at least one of a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

19.   The method of Claim 18 wherein the CIE further comprises at least one of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client subaddress time and length field specifying a time and length of a client subaddress interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA subaddress field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

20.   The method of Claim 16 wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

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21.   The method of Claim 16 wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

22.   The method of Claim 16 wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

23.   The method of Claim 8 wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

24.   The method of Claim 23 wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

25.   The method of Claim 24 wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being

used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

26.   The method of Claim 24 wherein the extension part is terminated by an end-of-extension TLV triplet.

27.   The method of Claim 24 wherein the extension TLV triplet contains vendor private information including a vendor identification.

28.   A system comprising:

a server operating in a non broadcast multiple access network (NBMA), the server having a cache containing information on a destination station;

a source station coupled to the server via a connection to obtain the information, the source station transmitting a request packet to the server, the request packet having parameters relating to the information; and

wherein the server transmits a reply packet containing the information to the source station, the reply packet matching the parameters of the request packet.

29.   The system of Claim 28 wherein the information comprises an internetwork layer address of the destination station.

30.   The system of Claim 28 wherein the information comprises an instance of a resource information.

31.   The system of Claim 30 wherein the resource information comprises a resource availability and an upper layer address information.

32.   The system of Claim 29 wherein the source station comprises:

a source cache to cache the address, the address being inserted in a data packet, the data packet being forwarded to the destination station.

33.   The system of Claim 29 wherein the request packet and the reply packet are instances of a protocol packet.

34.   The system of Claim 33 wherein the protocol packet comprises a fixed part and a mandatory part.

35.   The system of Claim 33 wherein the protocol packet further comprises an extensions part.

36.   The system of Claim 35 wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field specifying if the extension part exists and a location of the extension part if the extension part exists.

37.   The system of Claim 36 wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried, a protocol field specifying a protocol being used, a packet length field specifying a length of the protocol packet, a checksum field specifying a checksum value, a version field specifying a

version of the protocol, a type and length of source address field specifying a type and length of a source NBMA address, and a type and length of source subaddress field specifying a type and length of a source NBMA subaddress.

38.   The system of Claim 36 wherein the mandatory part comprises a common header.

39.   The system of Claim 38 wherein the mandatory part further comprises at least a client information entry (CIE).

40.   The system of Claim 38 wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

41.   The system of Claim 40 wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type, the request packet being one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively, and the reply packet being one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

42.   The system of Claim 40 wherein the common header further comprises at least one of a source NBMA address field specifying the

source NBMA address, a source NBMA subaddress field specifying the source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

43.   The system of Claim 39 wherein the CIE comprises at least one of a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

44.   The system of Claim 43 wherein the CIE further comprises at least one of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client subaddress time and length field specifying a time and length of a client subaddress interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA subaddress field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

45.   The system of Claim 41 wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

46.   The system of Claim 41 wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

47.   The system of Claim 41 wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

48.   The system of Claim 35 wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

49.   The system of Claim 35 wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

50.   The system of Claim 49 wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being

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used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

51.   The system of Claim 49 wherein the extension part is terminated by an end-of-extension TLV triplet.

52.   The system of Claim 49 wherein the extension TLV triplet contains vendor private information including a vendor identification.